

REMARKS

Claims 1-21 remain pending.

In the Office Action, the Examiner objected to the specification; objected to claims 3, 15, and 20; rejected claims 1-21 under 35 U.S.C. § 101; rejected claims 1-21 under 35 U.S.C. § 112, ¶1; rejected claims 1, 4, 6, 20, and 21 under 35 U.S.C. § 102(e) as being anticipated by Dagdeviren (US Patent No. 6,798,851); rejected claims 2 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Dagdeviren in view of Wej (US Patent No. 5,953,376); and made numerous other § 103(a) rejections of the remaining claims.

Regarding the specification objection, paragraph 0025 provides in relevant part (emphasis added):

Returning to FIG. 3, coset selector 360 may be arranged to receive *two consecutive calculated indices* $y'(n)$ and $y'(n+1)$, form a 2D point, and determine the nearest number of cosets $c(n)$.

Note that the word “consecutive” typically denotes “following one another in uninterrupted succession or order; successive” (see, e.g., www.dictionary.com). That Fig. 3 illustrates connections of a decoder at a particular point in time (e.g., $y'(n)$, $r_1(n)$, $r_2(n)$, $s(n)$, etc.) does not preclude, and is not inconsistent with, the disclosure in paragraph 0025 of coset selector 360 receiving a “consecutive” calculated index $y'(n+1)$ via the same connection to index mapper 350. The specification objection is improper and should be withdrawn.

Regarding the objections to claims 3 and 15, the Examiner is respectfully referred to Fig. 4 and its associated description at paragraph 0024. The language of claims 3 and 15 is plainly

supported by the specification. The objection to claims 3 and 15 is improper and should be withdrawn.

Regarding the objection to claim 20, if the allegation is really “not disclosed in the specification,” then perhaps a rejection under 35 U.S.C. § 112, ¶1, and not an objection, would be more appropriate. Applicants respectfully remind the Examiner, however, that the claims (e.g., claim 20) are part of the specification as filed (citation omitted). Applicants also note the mention of a hard disk in paragraph 0030, which is revealed by a quick word search of the application. The specification contains ample support for the claimed hard disk. The objection to claim 20 is improper and should be withdrawn.

Regarding the § 101 rejection of claims 1-21, it is cursory, incomplete, and incorrect for the following reasons. The undersigned does not know whether Primary Examiner Pankaj Kumar read this Action before signing it, but for his sake, the undersigned respectfully hopes he did not. First, numbered paragraphs 4-7 on page 3 are mere allegations unsupported by any reasoning or other evidence. As such, they cannot, and do not, establish a *prima facie* case of anything, much less unpatentability under 35 U.S.C. § 101. The Examiner and the Primary Examiner are respectfully referred to M.P.E.P. § 2107.02(IV), pages 2100-31 and 2100-32, which lays out the requirements for a *prima facie* case under section 101. None of these requirements have been followed, or even acknowledged, in the Office Action, and a *prima facie* case of unpatentability under 35 U.S.C. § 101 has not been established. The § 101 rejection of claims 1-21 is improper on its face, and it should be withdrawn.

The 35 U.S.C. § 112, ¶1 rejection of claims 1-21 is similarly defective. Applicants refer the Examiner to M.P.E.P. §§ 2163.04 and 2164.04 in this regard. None of these requirements have been followed, or even acknowledged, in the Office Action either, and a *prima facie* case of unpatentability under 35 U.S.C. § 112, ¶1 has not been established. The § 112, ¶1 rejection of claims 1-21 is improper on its face, and it should be withdrawn.

Applicants also note the following regarding the § 101 and § 112, ¶1 rejections of claims 1-21. The claimed invention has both specific/substantial utility and well established utility, namely decoding received data in a modem. Modems are really useful devices, and not much data communication would happen without them. See at least the Title and the Background (paragraphs 0001-0003) of the application. See also M.P.E.P. § 2107.02(III)(A) (“In most cases, an applicant’s assertion of utility creates a presumption of utility that will be sufficient to satisfy the utility requirement of 35 U.S.C. 101.”) and associated case law.

Applicants respectfully traverse the 35 U.S.C. § 102(e) rejection of claims 1, 4, 6, 20, and 21 over Dagdeviren. Claim 1 and its dependent claims require a decoder including, *inter alia*, “a constellation mapper circuit to determine two constellation points that are proximate a received symbol; and a coset selector circuit to receive successive constellation indices from the index mapper.” Claim 20 and its dependent claims require a system including, *inter alia*, “a constellation mapper arranged to receive a symbol and to determine two constellation points that are proximate the received symbol.” Dagdeviren fails to disclose all limitations of independent claims 1 and 20.

Page 4 of the Office Action alleges that the claimed constellation mapper is disclosed by Figs. 2 and 5. Page 5 alleges that the claimed coset selector circuit is disclosed by some combination of Figs. 4, 7, and their description.

First, Figs. 2 and 4 describe the precoder of Fig. 1 (see col. 3, lines 53-61), which encodes data into constellation symbols for transmission. Thus, the cited Figs. 2 and 4 do not concern a/the “received symbol” as required by claims 1 and 20 at all. These figures of Dagdeviren are inapposite, and cannot disclose that which is claimed.

Second, the Examiner does not read the claimed mapper and coset selector on any particular element or elements of Dagdeviren. This amounts to a general allegation, but no evidence, of an anticipating disclosure. As a matter of evidence, it is insufficient to establish a *prima facie* case of anticipation, and the rejection as stated is flawed and insufficient.

Third, with regard to claims 1 and 20, no evidence has been presented that Dagdeviren discloses a constellation mapper that “determine[s] two constellation points that are proximate the received symbol,” as required by the claims. Neither Fig. 5 nor Fig. 7 discloses determining two constellation points proximate to a received symbol. Nor do the portions of cols. 10 and 11 cited on page 5 of the Office Action.

Fourth, with regard to claim 1, it is clear that the only thing output from mapper 116 (the dashed box) is “decoded symbol 112.” Hand waving on page 5 of the Office Action aside, there is no disclosure in Dagdeviren that this decoded symbol 112 includes “successive constellation indices from the index mapper,” as also required by claim 1. Nor does Dagdeviren disclose the

claimed “coset selector circuit;” if the Examiner disagrees, he is respectfully requested to cite the reference numeral and column/row description of such circuit in the reference.

Because Dagdeviren fails to disclose all limitations of independent claims 1 and 20, the 35 U.S.C. § 102(e) rejection is improper and should be withdrawn. Claims 4, 6, and 21 are allowable at least by virtue of their dependence on claims 1 and 20.

Applicants respectfully traverse the 35 U.S.C. § 103(a) rejection of claims 2 and 10 over Dagdeviren in view of Wei. Claim 10 requires a method including, *inter alia*, “determining two constellation points that are nearest a received symbol.” Claim 2 has a similar recitation. A *prima facie* case of obviousness has not been established, because the combination of Dagdeviren and Wei fails to teach or suggest all limitations of independent claims 2 and 10.

As explained above, Dagdeviren does not, in fact, teach or suggest determining two constellation points that are proximate a received symbol. Wei fails to cure this deficiency, because it also fails to teach or suggest determining two constellation points, much less two that are nearest to a received symbol.

As above, the block citations to Wei amount to a general allegation that “it’s in there somewhere,” and are insufficient as a matter of evidence. Also, as far as Applicants can tell, Wei only discloses determining a distance between constellation points, which is very different from the claimed “determining two constellation points that are nearest a received symbol.” If the Examiner disagrees, he is again respectfully requested for a point citation.

Because the combination of Dagdeviren and Wei fails to teach or suggest all limitations of independent claims 2 and 10, a *prima facie* case of obviousness has not been established, and the 35 U.S.C. § 103(a) rejection should be withdrawn.

Independent claim 15, and its dependent claims, is allowable over any reasonable combination of Dagdeviren and Wei, with or without other references, for the reasons above presented with regard to claims 2 and 10.

Regarding the remaining dependent claims not specifically mentioned above, the addition of Forney, Barabash et al., Yeh, etc. fails to cure the deficiencies in Dagdeviren and Wei detailed above.

Reconsideration and allowance of all pending claims, 1-21, are respectfully requested.

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact Alan Pedersen-Giles, attorney for Applicants, at the number below to discuss such matters.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0221 and please credit any excess fees to such deposit account.

Respectfully submitted,

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